West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-03900001-2011**
Application Received: **December 7, 2010**
Plant Identification Number: **03900001**
Permittee: **E. I. du Pont de Nemours and Company**
Facility Name: **Belle Plant**
Manufacturing Unit: **Specialty Chemical Intermediates (Group 5 of 5)**
Mailing Address: **901 W. DuPont Ave., Belle, WV 25015**

Physical Location:	Belle, Kanawha County, West Virginia
UTM Coordinates:	451.90 km Easting • 4,232.60 km Northing • Zone 17
Directions:	I-64 to Belle exit, Route 60 east to Belle exit, turn right and plant is on the left.

Facility Description

The products in Group 5 of 5 are specialty chemical intermediates. The process units included are methylamines [monomethylamine (MMA), dimethylamine (DMA), trimethylamine (TMA), and ammonia storage], amides [dimethylformamide (DMF), monomethylformamide (MMF), and dimethylacetamide (DMAC)], dimethyl ether (DME), dimethyl sulfate (DMS), the carbon monoxide flare, and drum plant.

Emissions Summary

Group 5 of 5 Emissions Summary [Tons per Year]

Regulated Pollutants	Potential Emissions	2010 Actual Emissions
Carbon Monoxide (CO)	26.6	6.9
Nitrogen Oxides (NO_X)	6.5	5.2
Particulate Matter ($PM_{2.5}$)	---	---
Particulate Matter (PM_{10})	---	---
Total Particulate Matter (TSP)	---	---
Sulfur Dioxide (SO_2)	0.05	0
Volatile Organic Compounds (VOC)	523	497

PM_{10} is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2010 Actual Emissions
Methanol	2.9	2.0
Dimethylformamide (DMF)	2.8	0.5
Dimethylsulfate (DMS)	0.04	0.04

Some of the above HAPs may be counted as PM or VOCs.

Note: The differences between the potential emissions in the initial Title V permit and those listed in the table above are due to a review and update in 2008 of the emissions calculations basis.

Title V Program Applicability Basis

Due to the facility-wide potential to emit over 100 tons per year of criteria pollutants, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, the DuPont Belle Plant is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

Group 5 of 5 has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits for manufacturing sources.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Preconstruction permits for minor sources.
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.

	45CSR34	Emission Standards for Hazardous Air Pollutants Pursuant to 40 C.F.R. Part 63.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. 63, Subparts F, G, H	Hazardous Organic NESHAP (HON)
	40 C.F.R. Part 63, Subpart EEEE	Organic Liquids Distribution (OLD) MACT.
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR§21-37	Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment.
	45CSR§21-40	Control of VOC Emissions

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	**Date of Issuance**	**Permit Determinations or Amendments That Affect the Permit *(if any)***
R13-0914B	October 31, 2008	NA
R13-2284A	January 26, 2006	NA
CO-R21-97-31	September 10, 1997	October 21, 1997 letter from Ronald E. Smith, DuPont Belle, to Rebecca J. Haddad, OAQ. R13-2284A CO-R21-10A(97)
CO-R21-10A(97)	April 17, 2001	NA

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

This renewal fact sheet addresses the following changes made to the most recently issued Title V permit for this group.

1) **Added 40 C.F.R. 63, Subpart EEEE (OLD MACT) Applicable Requirements.** 40 C.F.R. 63, Subpart EEEE establishes emission limitations, operating limits, and work practice standards for organic hazardous air pollutants (HAP) emitted from organic liquids distribution (OLD) (non-gasoline) operations at major sources of HAP emissions. Organic liquids are defined in 40 C.F.R. §63.2406. This subpart applies to storage tanks storing organic liquids; transfer racks at which organic liquids are loaded into or unloaded out of transport vehicles and/or containers; equipment leak components in organic liquids service; transport vehicles while they are loading or unloading organic liquids at transfer racks subject to the OLD MACT; and all containers while they are loading or unloading organic liquids at transfer racks subject to the OLD MACT. The DuPont Belle Plant is an existing source and the compliance date for the OLD MACT was February 5, 2007. DuPont has identified the following OLD MACT affected sources in Specialty Chemical Intermediates (Group 5 of 5):

Equipment	Requirement	Compliance
Methanol line from main header to 25 & 39 Spots	40 C.F.R. §63.2346(c) –LDAR (Condition 4.1.15)	40 C.F.R. 63, Subpart H
MMF overheads loading spot	40 C.F.R. §63.2346(c) –LDAR (Condition 4.1.15)	40 C.F.R. 63, Subpart H
DMF line to drum plant	40 C.F.R. §63.2346(c) –LDAR (Condition 4.1.15)	40 C.F.R. 63, Subpart H

DuPont identified two transfer racks (methanol loading spots 25 & 29 and MMF overheads loading spot) in Group 5 of 5 as being subject to the transfer rack requirements of the OLD MACT, but since the actual annual facility-level organic liquid loading volume through the transfer racks is less than 800,000 gallons, these transfer racks are not subject to control under the OLD MACT. If at a later date, the total actual annual facility-level organic liquid loading volume becomes equal to or greater than the loading volume criteria for control in Table 2, DuPont must comply with 40 C.F.R. §§63.2346(b)(1), (b)(2), or (b)(3)(i) immediately. Records are required under Condition 4.4.12 to verify the transfer racks are not required to be controlled under the OLD MACT. Notifications are required under Condition 4.5.11 if any of the storage tanks or transfer racks become part of the affected source and/or subject to control under the OLD MACT.

DuPont did not identify any storage tanks as being subject to the requirements of the OLD MACT because the potentially applicable storage tanks were already part of an affected source under the HON MACT [see 40 C.F.R. §63.2338(c)(1)].

For existing sources, the OLD MACT has requirements which apply to transport vehicles during loading of organic liquids at transfer racks which meet the total actual annual facility-level organic liquid loading volume criterion for control in Table 2, items 7 and 8. Since DuPont's actual annual facility-level organic liquid loading volume does not exceed the level that requires control, the transport vehicle requirements do not apply.

Requirements under the OLD MACT for the loading of organic liquids into containers applies to new affected sources at transfer racks requiring control in Table 2, items 9 and 10. Since DuPont's transfer racks are existing and do not require control, the requirements for containers are not applicable.

2) **Removed 40 C.F.R. 63, Subpart FFFF (MON MACT) Placeholder Language.** MON MACT placeholder language was included as Condition 5.1.11 in the initial Title V permit (issued on June 6, 2006) and stated that the permittee shall comply with all applicable requirements of the MON MACT for the Monomethylformamide (MMF) process by no later than May 10, 2008. 40 C.F.R. 63, Subpart FFFF applies if you own or operate a miscellaneous organic chemical manufacturing process (MCPU) that is located, or part of, a major source of hazardous air pollutants (HAPs). An MCPU includes equipment necessary to operate a miscellaneous organic chemical manufacturing process that satisfies all of the conditions specified in 40 C.F.R. §§63.2435(b)(1) through (b)(3). The MMF process satisfies 40 C.F.R. §§63.2435(b)(1) and (b)(2). It does not, however, satisfy 40 C.F.R. §63.2435(b)(3) which states that the MCPU cannot be an affected source or part of an affected source under another subpart of part 63, because DuPont states that MMF is part of the Dimethylformamide (DMF) process which is subject to the requirements of 40 C.F.R. 63, Subparts F and G (HON MACT). DMF and MMF are made in the same equipment, with the same controls, and with the same raw materials, except that dimethylamine (DMA) is used to produce DMF and monomethylamine (MMA) is used to produce MMF. Since the MMF process is not subject to the MON MACT, the placeholder language in Condition 5.1.11 has been removed.

3) **Addition/Deletion of Requirements and Changes to the Numbering of the Title V Permit.** The following conditions have been added, deleted or renumbered as part of this Title V permit renewal:

Condition Number in R30-03900001-2006 (5 of 5) (MM01)	Condition Number in R30-03900001-2011 (5 of 5)	Explanation, if needed.
3.1.9	---	Deleted because 45CSR1 was repealed.
---	3.3.1.d	New boilerplate requirement.
3.5.10	3.5.11	Corrected numbering error. There were two conditions numbered 3.5.10 in the initial Title V permit.
---	4.1.15	Added OLD MACT requirement for equipment leaks.
---	4.4.12	Added OLD MACT recordkeeping requirement for transfer racks.
---	4.5.11	Added OLD MACT reporting requirement.
5.1.7	---	Removed “Reserved.”
5.1.8	5.1.7	Renumbered and added Monomethylformamide (MMF) to the list of processes subject to 40 C.F.R. 63, Subpart H
5.1.9	5.1.8	Renumbered
5.1.10	5.1.9	Renumbered
5.1.11	---	Deleted MON MACT placeholder language.
5.1.12	5.1.10	Renumbered
5.1.13	5.1.11	Renumbered
5.3.1	5.3.1	Added Monomethylformamide (MMF) to the list of processes subject to 40 C.F.R. 63, Subpart H

Condition Number in R30-03900001-2006 (5 of 5) (MM01)	Condition Number in R30-03900001-2011 (5 of 5)	Explanation, if needed.
5.4.8	5.4.8	Added MMF to the description of Group 1 wastewater streams.
5.4.9	---	Removed "Reserved."
5.4.10	5.4.9	Renumbered and added Monomethylformamide (MMF) to the list of processes subject to 40 C.F.R. 63, Subpart H
5.4.11	5.4.10	Renumbered
5.4.12	5.4.11	Renumbered
5.4.13	5.4.12	Renumbered
8.1.3	---	Removed "Reserved."
8.1.4	8.1.3	Renumbered
8.1.5	8.1.4	Renumbered
8.1.6	8.1.5	Renumbered
8.4.2	8.4.3	Corrected numbering error. There were two conditions numbered 8.4.2 in the initial Title V permit
8.4.3	8.4.4	Corrected numbering error. There were two conditions numbered 8.4.2 in the initial Title V permit
Certification of Data Accuracy Form in Appendix A	---	Removed because the requirement to certify the records was specified in Condition 6.4.10 and inclusion of the boilerplate form did not seem necessary.
Certification of Data Accuracy Form in Appendix B	---	Removed because the requirement to maintain certified records was specified in Condition 8.4.3 and inclusion of the boilerplate form did not seem necessary.
Appendix C	Appendix B	Renamed because Appendix B in the previous permit only contained the Certification of Data Accuracy Form which has been removed.

4. **Added Tank (DME14) to the Section 1.1 Emission Units Table.** This tank has no applicable requirements, so the only change was the addition to the Emission Units Table in Section 1.1 of the permit.

5. **Modified Conditions 8.2.1 and 8.4.3.** Condition 4.2.1 of R13-0914B (Title V Condition 8.2.1) states that for the purpose of determining compliance with the CO throughput limits specified in Condition 4.1.2 of R13-0914B (Title V Condition 8.1.2), the permittee shall monitor the amount of CO sent to the flare each day and the number of hours CO was sent to the flare. Condition 4.4.4 of R13-0914B (Title V Condition 8.4.3) states that for the purpose of determining compliance with the flare's emission limits specified in Condition 4.1.1 of R13-0914B (Title V Condition 8.1.1), the permittee shall maintain daily records of the total amount of CO sent to the flare and the number of hours each day that CO was sent to the flare. Since

monitoring requirement 8.2.1 and recordkeeping requirement 8.4.3 require the same parameters to be monitored and recorded and both the monitoring and recordkeeping would demonstrate compliance with the emission limits of 8.1.1 and the throughput limits of 8.1.2, Conditions 8.2.1 and 8.4.3 were modified as follows:

"8.2.1. For the purposes of determining compliance with the conditions of 8.1.1 and 8.1.2, the permittee shall monitor the amount of CO sent to the flare each day and the number of hours each day that CO was sent to the flare. **[45CSR13, R13-0914, 4.2.1; 45CSR§30-5.1.c]"**

"8.4.3. For the purposes of determining compliance with conditions 8.1.1 and 8.1.2 of this permit, the permittee shall maintain certified daily records of the total amount of CO sent to the flare and the number of hours each day that CO was sent to the flare. **[45CSR13, R13-0914, 4.4.4; 45CSR§30-5.1.c]"**

40 C.F.R. 64 - Compliance Assurance Monitoring (CAM)

According to 40 C.F.R. §64.2(a), CAM applies to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria: 1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under 40 C.F.R. §64.2(b)(1); 2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and 3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. 40 C.F.R. §64.2(b)(1)(i) exempts emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act; and 40 C.F.R. §64.2(b)(1)(vi) exempts emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method.

DuPont Belle conducted a review of their applicability to 40 C.F.R. 64 – "Compliance Assurance Monitoring" (CAM) for Group 5 of 5. Based on the information submitted, DuPont determined that none of their emission units and control devices in Group 5 of 5 are subject to CAM.

Emission Unit(s)	Control Device	Control Device Type	Emission Point ID
AM01, AM02, AM03, AM04, AM05, AM06, AM07, AM08, AM09, AM10, AM11, AM12, AM13, AM14, AM15, AM16, AM17, AM18, AM19, AM20, AM21, AM22, AM23, AM24, AM25, AM26, AM27, AM28, AM29, AM30, AM31, AM32, AM33, AM34, AM35, AM36, AM37, AM38, AM39, AM40, AM41, AM42, AM43, AM44, AM45, AM46, AM47, AM48, AM49, AM50, AM51, AM52, AM53, AM54, AM55, AM56, AM57, AM58, AM59, AM60, AM61, AM62, AM63, AM64, AM65, AM66, AM67, AM68, AM69, AM70, AM71, AM72, AM73, AM74, AM75, AM76, AM77, AM82, AM83, AM84, AM85, AM86, AM87, AM88, AM89, AM90, AM91, AM92, AM93, AM94, AM95, AM96, AM97, DMF02, DMF03, DMF04, DMF05, DMF06, DMF07, DMF08, DMF09, DMF10, DMF11, DMF12, DMF13, DMF14, DMF15, DMF16, DMF17, DMF18, DMF19, DMF20, DMF21, DMF22, DMF23, DMF24, DMF25, DMAC02, DMAC03, DMAC04, DMAC05, DMAC06, DMAC07, DMAC08, DMAC09, DMAC10, DMAC11, DMAC12, DMAC13, DMAC14	AMCD01	Flare	402.001
AM78	AMCD03	Internal Floating Roof	402.003

Emission Unit(s)	Control Device	Control Device Type	Emission Point ID
AM79, AM80, AM81	AMCD02	Flare	AE.001
DME010, DME020, DME021, DME022, DME023, DME024, DME025, DME026, DME027, DME040, DME041, DME042, DME030, DME031, DME032, DME033, DME034, DME035, DME036, DME037, DME050, DME051, DME052, DME053, DME056, DME07, DME08, DME09, DME10, DME11, DME12, DME13, DMS007, DMS008, DMS009, DMS010, DMS011, DMS021, DMS022, DMS023, DMS024, DMS026, DMS027, DMS028, DMS029	DMSCD01	Flare	451.100
DMS001	DMSCD03 DMSCD04 DMSCD02	Scrubber Demister Mist Eliminator	451.002
---	COFLARE	Flare	209.001

Flares AMCD01 and DMSCD01 control emissions from several emission units subject to the requirements of 40 C.F.R. 63, Subpart G. Since the flares are subject to the control device requirements of 40 C.F.R. 63, Subpart G, they are not subject to additional monitoring under the CAM rule as specified in 40 C.F.R. §64.2(b)(1)(i). This is also the case for the internal floating roof (AMCD03) on emission unit AM78. AM78 is a Group 1 storage tank, subject to the requirements of 40 C.F.R. 63, Subpart G, and the internal floating roof is the control option selected to demonstrate compliance, therefore this emission source and its control device are also exempt from CAM per 40 C.F.R. §64.2(b)(1)(i).

Tank AM79, and Heat Exchangers AM80 and AM81 emit ammonia and the ammonia emissions from these sources are controlled by Flare AMCD02. AM79, AM80, and AM81 do not have emission limits for ammonia and ammonia is not a regulated air pollutant. The only limitations or standards which apply to these emission sources are those under 45CSR6 which apply to the particulate emissions resulting from combustion of the ammonia in the flare. Since emission units AM79, AM80, and AM81 do not have an emission limitation or standard for an applicable regulated air pollutant (or a surrogate thereof) and they do not use a control device to achieve compliance with such emission limitation or standard, they are not subject to CAM.

SO_3 emissions from Tank DMS001 are controlled by Scrubber DMSCD03 and Demister DMSCD04 (with Mist Eliminator DMSCD02 as an emergency backup), and are vented through emission point 451.002. Scrubber DMSCD03 is a weak acid (H_2SO_4) circulating scrubber which absorbs the SO_3 vapors. There are no emission limits for SO_3. The only emission limits for emission point 451.002 are 45CSR§7-4.2 sulfuric acid (H_2SO_4) mist limits for the H_2SO_4 emissions from the H_2SO_4 used as the scrubbing liquid. Since the control devices are not used to control H_2SO_4 and there are no emission limits for SO_3 for which a control device must be used to achieve compliance, Tank DMS001 is not subject to CAM. Also, it should be noted that these control devices may be considered inherent process equipment as defined in 40 C.F.R. §64.1 because according to information supplied by DuPont, they are necessary for the proper and safe functioning of the process; and if they were not operating, there would be an unacceptable amount of material loss. Inherent process equipment is also not subject to CAM.

Carbon monoxide emissions from the CO Plant are controlled by the COFLARE and vented through emission point 209.001. The CO plant is owned and operated by an on-site vendor, Praxair (Plant ID No. 03900059), which provides DuPont Belle with carbon monoxide for use in some of their processes. The CO plant is covered under Praxair's permit, R13-0891A. If DuPont's processes which use the carbon monoxide are running below capacity, excess carbon monoxide from the CO plant is flared to DuPont's COFLARE which is covered under R13-0914B. Praxair is not subject to Title V. Since CAM only applies to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit, the CO Plant which is owned and operated by Praxair would not be subject to CAM.

Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. Since the DuPont Belle Plant has not made any changes that trigger a PSD modification, the requirements of the Greenhouse Gas Tailoring Rule do not apply.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

a. 40 C.F.R. 60, Subpart Kb – "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984." All volatile organic liquid storage vessels in Group 5 of 5 with a capacity greater than or equal to 75 cubic meters (m^3) were constructed before July 23, 1984.

b. 40 C.F.R. 60, Subpart NNN – "Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations." The distillation operation in the Methylamines process unit was constructed before the December 30, 1983 applicability date and has not been modified or reconstructed.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date:	September 30, 2011
Ending Date:	October 31, 2011

All written comments should be addressed to the following individual and office:

Carrie McCumbers
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

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Response to Comments (Statement of Basis)

No comments were received.